POBLACIONES INVERNALES DE TRES ESPECIES DE AVES:

Page 9:
4.1. Purpose: to understand the winter dynamics of burrowing owls, long-billed curlews, and mountain plovers in the Janos grasslands.

4.2.a. Estimate the number of individuals/hectare of burrowing owl, mountain plover, and long-billed curlew in one of the sampling colonies.

4.2.b. Determine if a relationship exists between the subject birds and biological characteristics of their habitat and vegetation.

4.2.c. Locate areas of highest density for each species.

5. The amount of individuals of burrowing owl, mountain plover, and long-billed curlew is related to the habitat conditions that dominate in the colonies of black-tailed prairie dog on the Janos grasslands.

Page 14:
6.2. Winter habitat: The mountain plover is an endemic bird to the short-grass prairie/grasslands of the Great Plains and arid zones of North America. According to a May 2001 report in collaboration with the Council for Forest Habitat and Life, the winter habitat of mountain plover in general consists of areas with flat topography or hills with little slope, between 0-5 degrees slope, but primarily less than 2 degrees of slope, flat plains with moderate elevation, generally less than 2000m above sea level; Arens soils that are alkaline; short grass not above 10cm, primarily less than 7cm; areas dominated by natural grasslands with native grasses, buffalo grass, and herbaceous weeds.

The work of May (2001) also mentioned that mountain plovers tend to live in areas with a variety of factors similar to prairie dogs, areas that are overgrazed by domestic and wild herbivores, short grass areas near artificial water structures, areas of recent grassland fires or areas with recently with recently trimmed grass or recently plowed.

Wunder and Knopf (2003) emphasized that mountain plovers lived in areas with vegetation less than 20 cm, finding that grass height can be an important determining factor as to where plovers will winter.

Page15 - 17:
Winter Habitat:
Wintering areas in the United States have been described by Knopf (1996) specifically in Sacramento, San Joaquin, the Imperial Valley of California as well as southern Arizona and southern Texas. The winter distribution in Mexico was described by Gomez (1996) who reported that all of northern Mexico was used as winter habitat: Baja California, Sonora, Chihuahua, Coahuila, Nuevo Leon, Tamaulipas, northern Zacatecas, and San Luis Potosi.

could accommodate a population of approximately 3,500 mountain plovers (~25% of the world population).

Dieni et al (2003) conducted Christmas bird counts between 1997 and 2003 in an area adjacent to our study area in Janos, called the Ejido San Pedro, and they recorded the presence of mountain plovers in six of the seven years with a maximum count of 35 in December 2000.

Another investigation conducted by Manzano-Fisher et al. (1999) in the grasslands of Janos reported various groups of about 30 mountain plovers and one group of about 120 mountain plovers. Additionally, they mentioned that the Salto de Ojo colony had the most individuals, while the Rancho El Cuervo colony did not have a single mountain plover.

Page 52:
Mountain Plover
Although we did not find a significant relationship between prairie dog burrows and the presence of mountain plovers, according to the literature, the mountain plover does not use prairie dog colonies as refuge like burrowing owls, but typically associated with these areas because of their productive foraging habitat. Howell (1995) mentioned that prairie dog colonies attracted mountain plovers because they offer a combination of open, short grasslands that favor insects that flocks of mountain plover feed on.

in the following way: date, start time, distance on line and perpendicular distance at which the bird(s) was observed, direction, activity, and finish time.

Records of individuals and distances were analyzed with the program Distance 5.0. The criteria of selection of models was generated by the program was the lowest AIC value (Buckland et al. 2001). Based on the selected model obtained values (+,- 95% IC and CV) of density and individuals per hectare (DS), group density per hectare (D), individuals in the area (N), probability of detection (p) and effective width detection (??) (AED, m). It should be pointed out that the mountain plover and long-billed curlew were included in the count data were collected during each of the 6 months, while burrowing owl counts were collected only in November. This is because the burrowing owl is a resident species and similar to other non-migratory populations such as those in Flordia, the adults maintain territories throughout the year (68%; Millsap and Bear 1992). As such, we can suppose that most of the sightings in different months would be the same individuals. So, to avoid overestimation we opted to take data from the month from which we had the most records. On the contrary, for the long-billed curlew and the mountain plover, both non-resident wintering species, we included all records, considering each monthly sampling event as one repetition.

Page 20:
During the winter between October 2007 and March 2008, we obtained for the mountain plover 69 records of 633 individuals, for the long-billed curlew we obtained 53 records of 700 individuals, and for the burrowing owl we obtained 110 records of individuals. Of the 49 transects monitored, 4 did not have any bird reports, 8 recorded one species, 20 recorded 2 species, and in 17, 3 species were recorded.

Charadius montanus:
Of the 49 sampled transects, we reported the birds in 26 of them (Figure 5), and in Table 9, the AIC values for the 12 possibilities that exist within the program. The data have been adjusted for two models that are in agreement, in the Area de La Soledad are 504 +,- 22% individuals during the winter period and the species presents a 72% probability of detection in the area with an effective width of detection between transects of 131.62m.

Figure 6 demonstrates the distance of the majority of observations (70 - 110m) with the greatest observation distance being 180m.

Page 37:
The estimated population of mountain plovers in North Americas ranges from 7,500 to 14,000 (Knopf 1996, Morrison et al. 2000, Plumb et al. 2005); considering the density count of individuals obtained from transects in the area of Soledad (504 +,- 22%), we estimate that between 2.8 and 8.2% of the worldwide population of mountain plovers overwinters in the grasslands of southern Nuevo Leon. However, there are previous reports from the area that indicate larger estimates 962+,- 89% (2005-2006; FCB-UANL 2005) and sightings of up to 1,500 individuals of the species (RHRAP, WHSRN 2007), which represents up to 20% of the worldwide population (range: 11 – 20%).

program (Thomas et al. 2006) which will give us a density estimate of individuals per hectare.

4. Characterization of habitat as a function of production
At sites of most use, we will utilize the quadrat method (Daubenmire 1968) to determine vegetative cover as well as it dry weight productivity. We will also place pitfall traps as a means of capturing insects to determine the availability of these food items during the winter.